

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number
WO 2003/087158 A3

(51) International Patent Classification⁷: C07K 14/70,
C12Q 1/68, G01N 33/68, C07K 14/705

(21) International Application Number:
PCT/EP2003/003713

(22) International Filing Date: 10 April 2003 (10.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/372,899 16 April 2002 (16.04.2002) US
60/375,139 22 April 2002 (22.04.2002) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
10 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: REGULATION OF HUMAN TRANSIENT RECEPTOR POTENTIAL CHANNEL

(57) Abstract: Reagents which regulate human transient receptor potential channel and reagents which bind to human transient receptor potential channel gene products can play a role in preventing, ameliorating, or correcting dysfunctions or diseases including, but not limited to, urinary incontinence, overactive bladder, benign prostatic hyperplasia, lower urinary tract syndromes, and CNS disorders.

RCK 27

WO 2003/087158 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/03713

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/70 C12Q1/68 G01N33/68 C07K14/705

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C07K C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 03/064602 A (NEUHAUSSER WERNER M ;JULIUS DAVID (US); MCKEMY DAVID D (US); UNIV) 7 August 2003 (2003-08-07) the whole document	1-8
P,X	WO 02/101045 A (IRM LLC ;NOVARTIS AG (CH); GANJU PAMPOSH (GB); BEVAN STUART (GB);) 19 December 2002 (2002-12-19) SEQ ID Nos 8 and 11	1-8
P,X	WO 02/087608 A (BOEHRINGER INGELHEIM PHARMA ;KRESS MICHAELA (DE); HABERBERGER RAIN) 7 November 2002 (2002-11-07) claims	1-8
P,X	WO 02/44210 A (SQUIBB BRISTOL MYERS CO (US)) 6 June 2002 (2002-06-06) claims 17-20,25	1-8
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

13 February 2004

Date of mailing of the international search report

15. 04. 2004

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/03713

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/10391 A (CURTIS RORY A J ;MILLENNIUM PHARM INC (US)) 7 February 2002 (2002-02-07) claims 17-26 -----	1-8
X	WO 02/10382 A (WISSENBACH ULRICH) 7 February 2002 (2002-02-07) claim 31 page 17, paragraph 6 - page 19, paragraph 1 -----	1-8
X	WO 02/04520 A (INCYTE GENOMICS INC) 17 January 2002 (2002-01-17) claims 19,20,22,23,25-27 -----	1-8
X	WO 02/02633 A (INCYTE GENOMICS INC ;TRIBOULEY CATHERINE M (US); RAUMANN BRIGITTE) 10 January 2002 (2002-01-10) claims 19,20,22,23,25-27 -----	1-8
X	WO 02/00722 A (SILOS SANTIAGO INMACULADA ;CURTIS RORY A J (US); MILLENNIUM PHARM) 3 January 2002 (2002-01-03) Seq ID No.5claim 2 page 137 - page 140 -----	1-8
X	WO 02/00718 A (SILOS SANTIAGO INMACULADA ;CURTIS RORY A J (US); MILLENNIUM PHARM) 3 January 2002 (2002-01-03) claims 17-35 page 2, line 34 - page 3, line 3 page 4, line 1 - line 29 -----	1-8
X	WO 01/077331 A (MILLENNIUM PHARMACEUTICALS INC ;SILOS SANTIAGO INMACULADA (US); CUR) 18 October 2001 (2001-10-18) claims 10-22,28-30 page 3, line 15 - line 25 page 7, line 1 - line 19 page 8, line 17 - line 23 -----	1-8
X	WO 01/068698 A (BOEHRINGER INGELHEIM) 20 September 2001 (2001-09-20) claims 43-57,68 page 28, line 25 - page 34, line 34 -----	1-8
X	WO 01/062794 A (LORA JOSE M ;CURTIS RORY A J (US); GLUCKSMANN MARIA ALEXANDRA (US)) 30 August 2001 (2001-08-30) claims 17-30,37,38 page 7, line 10 - line 21 page 12, line 17 - line 25 page 13, line 11 - line 16 -----	1-8
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/03713

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/046258 A (INCYTE GENOMICS INC ;AZIMZAI YALDA (US); KHAN FARRAH A (US); REDDY) 28 June 2001 (2001-06-28) claims 19,20,22,23,25-27 -----	1-8
X	WO 00/40614 A (BETH ISRAEL HOSPITAL ;SCHARENBERG ANDREW M (US)) 13 July 2000 (2000-07-13) claims 24,36,37 -----	1-8
X	WO 00/04929 A (UNIV SOUTH ALABAMA) 3 February 2000 (2000-02-03) page 7, line 6 - line 12 page 15, line 12 - line 26. -----	1-8
X	WO 99/09140 A (BRAKE ANTHONY (US); JULIUS DAVID (US); UNIV.CALIFORNIA(US); CATERINA M) 25 February 1999 (1999-02-25) claim 19 -----	1-8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/03713

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1-8
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-8 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 1.2

Claims Nos.: 1-8

Given the breadth of the independent claims due to the definitions of the sequences which includes sequences of anything from 26% identity upwards, the initial phase of the search revealed a very large number of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of the claim(s) may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claim(s) is impossible. Consequently, the search has been restricted to methods of screening using SEQ ID No.12.

Present claims 1-4 relate to an extremely large number of possible methods. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is not to be found, as the description merely represents a theoretical approach and does not exemplify the invention in practice. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely methods of screening using SEQ ID No.12.

Present claims 5-8 relate to a reagent and uses thereof defined by reference to a desirable characteristic or property, namely that the reagent has been identified using the screening methods of claims 1-4.

The claims cover all reagents having this characteristic or property, including known compounds (page 38 line 25) whereas the application provides does not provide support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for a single reagent as no specific reagents are identified. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound/method/apparatus by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the use of SEQ ID No.12.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Other documents relating to disclosure concerning transient receptor potential channels have also been added to the search report in order to illustrate the state of the art. However the list is not exhaustive and further documents may become relevant when the subject matter of the claims has been amended to overcome the above objections.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8 (partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.12 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

2. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.13 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

3. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.14 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

4. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.15 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

5. claims: 1-8 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.16 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

6. claims: 1-8 (partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.17 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

7. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.18 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

8. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.19 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

9. claims: 1-8(partially)

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.20 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

10. claims: 1-8(partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Method of screening comprising a test compound with a polynucleotide for human transient receptor channel encoding the amino acid sequence SEQ ID No.21 or complement, derivative or fragment thereof, reagent so identified, composition containing said agent, use of composition comprising said agent.

11. claims: 1-8 (partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.1 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

12. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.2 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

13. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.3 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

14. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.4 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

15. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.5 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

16. claims: 1-8(partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.6 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

17. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.7 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

18. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.8 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

19. claims: 1-8(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.9 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

20. claims: 1-18(partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.10 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

21. claims: 1-8 (partially)

Method of screening comprising contacting a test compound with a polynucleotide for human transient receptor channel comprising SEQ ID No.11 or complement, derivative or fragment thereof, reagent so identified, composition containing said reagent, use of composition comprising said reagent.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/03713

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/EP 03/03713

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